In the Specification

Please amend first paragraph on page 1 as follows:

Technical Field

~~The present invention~~ This disclosure relates to antireflection films for screens of displays such as cathode ray tubes (CRTs), liquid crystal devices (LCDs), and plasma display panels (PDPs). The ~~present invention~~ disclosure particularly relates to a highly transparent multilayer film with high scratch resistance and a display filter.

Please amend paragraph spanning pages 1 and 2 as follows:

Background ~~Art~~

In screens of displays such as televisions and computer monitors, there is a problem in that displayed images are illegible because light emitted from external light sources such as the sun and fluorescent tubes is reflected on the screen surfaces. In order to solve this problem, the following techniques have been proposed as disclosed in Japanese Unexamined Patent Application Publication Nos. 12-329905 and 13-264508: a technique for irregularly reflecting external light on an irregular surface and a technique for preventing light reflection using a structure including thin-films with low refractive index and thin-films with high refractive index, those thin-films being alternately stacked.

Please amend second paragraph on page 2 as follows:

~~DISCLOSURE OF INVENTION~~

It ~~is an object of the present invention~~ could therefore be advantageous to provide a multilayer film that has high scratch resistance enhanced by increasing the surface hardness of a low-refractive index layer, low reflectance, and high transparency and is useful in preventing reflection. It ~~is another object of the present invention~~ could also be advantageous to provide a method for manufacturing the film.

Please amend paragraph spanning pages 2 and 3 as follows:

~~In order to achieve the above objects, the~~ Our multilayer film ~~of the present invention~~ principally has the configuration below. The multilayer film includes a substrate film (a), a hard coat layer (b) containing a (meth)acrylate compound, an electrically conductive layer (c) containing electrically conductive particles, and a resin layer (d) containing a fluorine compound, those layers being disposed on at least one face of the substrate film (a). The resin layer (d) has fine irregularities

on the surface and an arithmetic average surface roughness Ra ranging from 0.003 to 0.025 μm and the surface of the resin layer (d) of the multilayer film has a reflectance of less than 2%.

Please amend first paragraph on page 3 as follows:

A display film ~~of the present invention~~ principally has the configuration below. The display film includes the multilayer film, a sticky or adhesive layer placed on a face of the multilayer film that is opposite to the resin layer (d), and a protective film joined to the sticky or adhesive layer.

Please amend second paragraph on page 3 as follows:

A display filter ~~of the present invention~~ principally has the configuration below. The display filter includes the multilayer film joined to the front face of a display with the sticky or adhesive layer placed therebetween.

Please amend third paragraph on page 3 as follows:

A front protector ~~panel, according to the present invention,~~ panel for plasma display panels principally has the configuration below. The plasma display panel front protector panel includes the multilayer film joined to the front face of a front panel for plasma display panels with the sticky or adhesive layer placed therebetween.

Please amend first paragraph on page 4 as follows:

Brief Description of the Drawings

FIG. 1 is a schematic plan view showing a multilayer structure of a multilayer film ~~according to the present invention~~.

Please amend second paragraph on page 4 as follows:

FIG. 2 is an illustration showing a PDP front panel including the multilayer film ~~of the present invention~~.

Please amend paragraph spanning pages 4 and 5 as follows:

~~Best Mode for Carrying Out the Invention~~ Detailed Description

A multilayer film ~~of the present invention~~ includes a substrate film (a), a hard coat layer (b) containing a (meth)acrylate compound, an electrically conductive layer (c) containing electrically conductive particles, and a resin layer (d) containing a fluorine compound, those layers being disposed on at least one face of the substrate film (a).

Please amend paragraph spanning pages 5 and 6 as follows:

In the multilayer film ~~of the present invention~~, the following conditions and configurations are preferable: (1) the resin layer (d) has irregularities on the surface and an arithmetic average surface roughness Ra ranging from 0.003 to 0.025 μm and the surface of the resin layer (d) of the multilayer film has a reflectance of less than 2%; (2) the multilayer film has a haze of less than 3%; (3) the substrate film (a) contains a polymer containing one selected from the group consisting of an ester, an olefin, an acetate, styrene, a carbonate, a sulfone, ether ethyl ketone, an imide, fluorine, a nylon, an acrylate, and an aliphatic olefin; (4) the substrate film (a) contains a polymer containing one selected from the group consisting of the ester, the acetate, and the acrylate; (5) the electrically conductive layer (c) has a thickness of 0.01 to 1.0 μm; (6) the electrically conductive layer (c) has a conductive particle content of 70% to 90% by weight; (7) the resin layer (d) contains a composition containing fine silica particles with a particle size of 0.001 to 0.2 μm; (8) the fine silica particles contain a composition having two or more particle size distributions; (9) the resin layer (d) contains a composition that contains a silane coupling agent represented by the formula $R(1)_aR(2_bSiX_{4-(-a+b)}$, a hydrolysate of the agent, or a product obtained by subjecting the agent to reaction, wherein R(1) and R(2) independently represent a hydrocarbon group having an alkyl group, an alkenyl group, an allyl group, a halogen group, an epoxy group, an amino group, a mercapto group, a methacryloxy group, or a cyano group, X represents a hydrolyzable substituent selected from the group consisting of an alkoxyl group, an alkoxyalkoxy group, a halogen group, and an acyloxy group, a and b are independently equal to zero, one, or two, and the sum of a and b is equal to one, two, or three; (10) the fluorine compound contained in the resin layer (d) contains a composition having an alkoxysilyl group; (11) a display film includes the multilayer film described above; (12) a display includes the display film; (13) a display filter includes the multilayer film; (14) a front protector panel for plasma display panels includes the multilayer film; and (15) a plasma display includes the front protector panel for plasma display panels. According to those conditions and conditions, advantages ~~of the present invention~~ can be achieved.

Please amend first paragraph on page 6 as follows:

~~The present invention~~ We will now ~~be~~ further ~~described~~ describe selected aspects in detail.

Please amend paragraph spanning pages 6 and 7 as follows:

When the substrate film (a) ~~of the present invention~~ is used as a component (hereinafter

referred to as a display component) of a display unit, the substrate film (a) preferably has high transmittance and low haze. For example, the transmittance is preferably 40% or more and more preferably 60% or more at a wavelength of 400 to 800 nm, and the haze is preferably 5% or less and more preferably 3% or less. If such a display component does not satisfy one or both of those conditions, a sharp image cannot be achieved. In order to achieve an advantage, the upper limit of the transmittance is about 99.5% and the lower limit of the haze is about 0.1%, in a feasible range.

Please amend third paragraph on page 8 as follows:

The thickness of the substrate film (a) ~~used in the present invention~~ is not particularly limited and the substrate film (a) usually has a thickness of five to 800 μm and preferably ten to 250 μm in view of transparency, haze, and mechanical properties. The substrate film (a) may include two or more films laminated to each other by a known method.

Please amend paragraph spanning pages 9 and 10 as follows:

~~In the present invention, it~~ It is essential that the hard coat layer (b) be placed on the substrate film (a) and contain a (meth)acrylate. The (meth)acrylate is radically polymerized by the application of activating light and a layer containing the (meth)acrylate has high solvent resistance and hardness. Examples of the (meth)acrylate include monofunctional acrylates such as methyl (meth)acrylate, n-butyl (meth)acrylate, polyester (meth)acrylate, lauryl (meth)acrylate, hydroxyethyl (meth)acrylate, and hydroxypropyl (meth)acrylate. Furthermore, examples of the (meth)acrylate include a multifunctional (meth)acrylate having two or more (meth)acryloyl groups, and such a (meth)acrylate is particularly preferable ~~in the present invention~~ because high solvent resistance is achieved. Examples of the multifunctional (meth)acrylate include pentaerythritol tri(meth)acrylate, pentaerythritol tetra(meth)acrylate, dipentaerythritol tri(meth)acrylate, dipentaerythritol tetra(meth)acrylate, dipentaerythritol penta(meth)acrylate, dipentaerythritol hexa(meth)acrylate, and trimethylolpropane tri(meth)acrylate. Those monomers may be used alone or in combination.

Please amend first paragraph on page 11 as follows:

~~In the present invention, it~~ It is essential that the electrically conductive layer (c) be placed on the hard coat layer (b) and contain electrically conductive particles (B) and a binder component (A).

Please amend paragraph spanning pages 13, 14 and 15 as follows:

~~In the present invention, in order to~~ To cure the binder component used to form the hard coat layer (b) and electrically conductive layer (c), an initiator may be used. The initiator is used to initiate

or promote the radical, anionic, or cationic polymerization and/or cross-linking reaction of the binder component and various well-known photopolymerization initiators can be used. Examples of the initiator include sulfides such as sodium methyldithiocarbamate sulfide, diphenyl monosulfide, dibenzothiazolyl monosulfide, and dibenzothiazolyl disulfide; thioxanthones such as thioxanthone, 2-ethylthioxanthone, 2-chlorothioxanthone, and 2,4-diethylthioxanthone; azo compounds such as hydrazone and azobisisobutyronitrile; diazo compounds such as benzene diazonium; aromatic carbonyl compounds such as benzoin, benzoin methyl ether, benzoin ethyl ether, benzophenone, dimethylamino benzophenone, Michler's ketone, benzylanthraquinone, t-butylanthraquinone, 2-methylanthraquinone, 2-ethylanthraquinone, 2-aminoanthraquinone, and 2-chloroanthraquinone; dialkylaminobenzoates such as methyl p-dimethylaminobenzoate, ethyl p-dimethylaminobenzoate, butyl D-dimethylaminobenzoate, and isopropyl p-diethylaminobenzoate; peroxides such as benzoyl peroxide, di-t-butyl peroxide, dicumyl peroxide, cumene hydroperoxide; acridines such as 9-phenylacridine, 9-p-methoxyphenyl acridine, 9-acetylaminoacridine, benzacridine; phenazines such as 9,10-dimethyl banzophenazine, 9-methyl banzophenazine, 10-methoxy banzophenazine; quinoxalines such as 6,4',4"-trimethoxy-2,3-diphenyl quinoxaline; a 2,4,5-triphenylimidazolyl dimer; 2-nitrofluorene; 2,4,6-triphenylpyrylium tetrafluoroborate; 2,4,6-tris(trichloromethyl)-1,- 3,5-triazine; 3,3'-carbonylbiscoumarin; thio Michler's ketone; 2,4,6-trimethyl benzoyl diphenyl phosphine oxide; oligo (2-hydroxy-2-methyl-1-(4-(1-methylvinyl)phenyl) propanone); and 2-benzyl-2-dimethylamino-1-(4-morpholinophenyl) butanone.

Please amend first paragraph on page 15 as follows:

~~In the present invention, in order to~~ To prevent the sensitivity of the initiator from being decreased due to oxygen inhibition, an amine compound may be used together with the photopolymerization initiator when the hard coat layer (b) and the electrically conductive layer (c) are formed. The amine compound is not particularly limited and any aliphatic compound and any aromatic amine compound that are non-volatile can be used. For example, triethanolamine and methyl diethanolamine are preferable.

Please amend paragraph spanning pages 15 and 16 as follows:

~~In the present invention, for~~ For the composition of the electrically conductive layer (c), the ratio ((A)/(B)) of the binder component (A) to the particles (B) ranges from 10:90 to 30:70 and preferably 15:85 to 25:75 on a weight basis. When the amount of the particles (B) is below the range,

an obtained layer has low electrical conductivity although the layer has high transparency. In contrast, when the amount thereof is above the range, the layer has unsatisfactory physical and/or chemical properties, which is not preferable. The amount of the photopolymerization initiator is usually 0.1 to 20 parts and preferably 1.0 to 15.0 parts with respect to 100 parts of the binder component (A) on a weight basis. When the amount of the initiator is less than 0.1 parts by weight, the rate of the photopolymerization is low; hence, light must be applied to the layer for a long time in order to achieve a satisfactory hardness and scratch resistance and the layer cannot be sufficiently cured in some cases. In contrast, when the amount thereof is more than 20 parts by weight, the layer has low electrical conductivity, abrasion resistance, weather resistance, and other properties.

Please amend paragraph spanning pages 16 and 17 as follows:

~~In the present invention, in order to~~ To enhance the electrical conductivity, the electrically conductive layer (c) may further contain an electrically conductive polymer such as polypyrrol or polyaniline and/or a metal organic compound such as metal alcoholate or a chelate compound. In order to enhance the surface hardness, the electrically conductive layer (c) may further contain inorganic particles containing alkyl silicate, a hydrolysate of alkyl silicate, colloidal silica, dry-process silica, wet-process silica, or titanium oxide; fine colloidal silica particles; or other particles.

Please amend second paragraph on page 17 as follows:

The electrically conductive layer (c) ~~of the present invention~~ preferably has a transmittance of 40% or more and more preferably 60% or more in view of sharpness and transparency.

Please amend paragraph spanning pages 17 and 18 as follows:

~~In the present invention, it~~ It is essential that the resin layer (d) be placed on the electrically conductive layer (c) and contain a fluorine compound. The fluorine compound used in the present invention is preferably cross-linked with heat or ionizing radiation. Examples of the cross-linkable fluorine compound include a fluorine-containing monomer with an unsaturated group, a fluorine polymer with a cross-linkable group, and a fluorine-containing copolymer containing a fluorine-containing monomer and a monomer for forming such a cross-linkable group.

Please amend second paragraph on page 20 as follows:

~~In the present invention, the~~ The resin layer (d) preferably further contains a cross-linkable compound in addition to the fluorine-containing copolymer. Such a cross-linkable compound is useful in achieving desired curing properties and/or useful in enhancing curing properties.

Please amend second paragraph on page 25 as follows:

~~In the present invention, a~~ A curing agent may be used to cure the coating solution for forming the resin layer (d). The curing agent preferably promotes the polycondensation of the silane coupling agent. Examples of the curing agent include acids. A Lewis acid is particularly preferable among the acids. Examples of the Lewis acid include metal chelates and metal alkoxides such as acetoacetoxy aluminum. The amount of the curing agent may be arbitrarily determined and usually 0.1 to 10 parts by weight with respect to 100 parts by weight of, for example, the silane coupling agent.

Please amend paragraph spanning pages 25 and 26 as follows:

~~In the present invention, various~~ Various additives such as a polymerization inhibitor, an oxidation inhibitor, a dispersing agent, and a leveling agent may be used according to needs when the resin layer (d) is formed.

Please amend first paragraph on page 26 as follows:

~~In order to~~ To allow the multilayer film ~~of the present invention~~ to be highly transparent, the haze must be less than 3% and preferably less than 2.7%. When the haze is 3% or more, the transparency is unsatisfactory.

Please amend second paragraph on page 26 as follows:

~~In the present invention, in order to~~ To allow the surface of the resin layer (d) to have high scratch resistance, the resin layer (d) must have fine irregularities on the surface. The relationship between the scratch resistance and the surface roughness due to the irregularities is presumed to be based on the mechanism below. When the irregular surface is scratched with steel wool or the like, portions of the steel wool are in contact only with the tips of protrusions of the irregular surface. Therefore, the total area of regions at which the steel wool portions are in contact with the irregular surface is extremely small; hence, the scratch resistance is high.

Please amend first paragraph on page 27 as follows:

~~In the present invention, in order to~~ To form the irregularities on the surface of the resin layer (d), the following particles are preferably used: inorganic particles containing colloidal silica, dry-process silica, wet-process silica, titanium oxide, glass beads, aluminum oxide, silicon carbide, silicon nitride, or the like; fine colloidal silica particles; or other particles. The fine colloidal silica particles are particularly preferable. In particular, the fine silica particles are preferably a mixture of

two or more species of particles having different sizes. When the fine silica particles are a mixture of, for example, particles having an average particle size of 0.001 to 0.02 μm and particles having an average particle size of 0.02 to 0.2 μm, the fine irregularities can be formed.

Please amend second paragraph on page 27 as follows:

~~In the present invention, in order to~~ To allow the multilayer film to have a low reflective surface that is close to the resin layer (d), the surface has a reflectance of less than 2% and preferably less than 1.7%. When the reflectance is above the range, external light is apt to be reflected, that is, the multilayer film does not have a low reflective surface.

Please amend paragraph spanning pages 27 and 28 as follows:

~~In the present invention, in order to~~ To allow the multilayer film to have such a low reflective surface that is close to the resin layer (d), the product of the refractive index and thickness of the electrically-conductive layer (c) and those of the resin layer (d) is preferably equal to a quarter of the wavelength of a target light beam (usually, a visible light beam). Therefore, the product of the thickness d and refractive index n of the electrically conductive layer (c) multiplied by four and the product of the thickness d and refractive index n of the resin layer (d) multiplied by four is preferably within a range of 380 to 780 nm respectively. Thus, the following equation (1) preferably holds:

$$n \cdot d = \lambda / 4 \qquad (1)$$

wherein n represents the refractive index of the electrically conductive layer (c) and the resin layer (d), d represents the thickness of the electrically conductive layer (c) and the resin layer (d), and λ represents the wavelength of a visible light beam and is usually within a range of 380 to 780 nm.

Please amend paragraph spanning pages 28 and 29 as follows:

In order to allow the multilayer film ~~of the present invention~~ to have low reflectance, the electrically conductive layer (c) preferably has a thickness of 0.01 to 1.0 μm and more preferably 0.06 to 0.12 μm. Furthermore, the resin layer (d) preferably has a thickness of 0.01 to 1.0 μm and more preferably 0.07 to 0.12 μm. When the thickness of the electrically conductive layer (c) and that of the resin layer (d) are outside the respective ranges described above, equation (1) does not hold and the surface of the multilayer film that is close to the resin layer (d) does not have low refractive index.

Please amend first paragraph on page 29 as follows:

Furthermore, ~~in the present invention, in order~~ to allow the surface of the multilayer film that

is close to the resin layer (d) to have low refractive index, the resin layer (d) preferably has a refractive index less than that of the electrically conductive layer (c). That is, the value of the following ratio is preferably less than 1.0 and more preferably 0.6 to 0.95: the ratio of the refractive index of the resin layer (d) to that of the electrically conductive layer (c). The resin layer (d) preferably has a refractive index of 1.47 or less and more preferably 1.35 to 1.45. Resin with a refractive index of less than 1.35 cannot be substantially prepared by a current method. When the refractive index is more than 1.47, the reflectance is extremely high.

Please amend second paragraph as follows:

A method for manufacturing the multilayer film ~~of present invention~~ will now be described.

Please amend paragraph spanning pages 29 and 30 as follows:

The multilayer film ~~of present invention~~ can be manufactured by providing the hard coat layer (b) containing the (meth)acrylate compound, the electrically conductive layer (c) containing the electrically conductive particles, and the resin layer (d) containing the fluorine compound on at least one face of the substrate film (a).

Please amend first paragraph on page 30 as follows:

~~In the present invention, the~~ The electrically conductive layer (c) can be formed according to the following procedure: a coating solution containing components, which dispersed in solvent, for forming the electrically conductive layer (c) is prepared and then applied onto the substrate film (a), and the obtained coating is dried and then cured. The resin layer (d) can be formed according to the same procedure as the above.

Please amend paragraph spanning pages 30 and 31 as follows:

The solvent used to form the electrically conductive layer (c) ~~of the present invention~~ is necessary to facilitate the applying operation or printing operation of the composition ~~of the present invention~~ and necessary to enhance the particle dispersion. Various well-known organic solvents in which the binder component (A) can be dissolved can be used. ~~In the present invention, the~~ The solvent preferably has a boiling point of 60°C. to 180°C. in view of the viscosity stability of and drying properties of the composition. Furthermore, the solvent preferably contains an oxygen atom because of the high affinity to metal particles. Preferable examples of the solvent include methanol, ethanol, isopropyl alcohol, n-butanol, tert-butanol, ethylene glycol monomethyl ether, 1-methoxy-2-propanol, propylene glycol monomethyl ether, cyclohexanone, butyl acetate, isopropyl acetone,

methyl ethyl ketone, methyl isobutyl ketone, diacetylacetone, and acetylacetone. Those may be used alone or in combination.

Please amend paragraph spanning pages 32 and 33 as follows:

The multilayer film ~~of the present invention~~ preferably has a multilayer structure in which the hard coat layer (b) containing the (meth)acrylate compound, the electrically conductive layer (c) containing the electrically conductive particles, and the resin layer (d) containing the fluorine compound are disposed on at least one face of the substrate film (a). In another embodiment, the multilayer film may have another multilayer structure in which electrically conductive layers (c) are each placed on the upper and lower faces of a substrate film (a). In this embodiment, a resin layer (d) is preferably placed on at least one of the electrically conductive layers (c). Alternatively, the multilayer film may have another multilayer structure in which a plurality of electrically conductive layers (c) are arranged on a face of a substrate film (a), and in this case, a plurality of resin layers (d) are preferably arranged on the top of the electrically conductive layers (c). Alternatively, an undercoat and/or an electrically conductive layer (c) may be placed on a face of a substrate film (a) that is opposite to a face having a hard coat layer (b) thereon. Alternatively, a moisture-proof layer and/or a protective layer may be placed on a resin layer (d). In order to avoid the deterioration of a reflection-preventing function, the moisture-proof layer and the protective layer preferably have a thickness of less than 20 nm.

Please amend first paragraph on page 33 as follows:

The display film ~~according to the present invention~~ includes the multilayer film, a sticky layer or adhesive layer placed on a face of the multilayer film that is opposite to the resin layer (d), and a protective layer joined to the sticky layer or the adhesive layer.

Please amend third paragraph on page 35 as follows:

The display filter ~~of the present invention~~ is prepared by joining the sticky or adhesive layer of the display film to a screen and/or front panel of a display unit such as a liquid crystal display (LCD), a plasma display panel (PDP), an electroluminescent display (ELD); a cathode ray tube (CRT), or a portable digital assistant (PDA).

Please amend paragraph spanning pages 35 and 36 as follows:

A display can be prepared by joining the sticky or adhesive layer of the display film ~~of the present invention~~ to a screen of a display unit such as a liquid crystal display (LCD), a plasma

display panel (PDP), an electroluminescent display (ELD), a cathode ray tube (CRT), or a portable digital assistant (PDA).

Please amend second paragraph on page 36 as follows:

A plasma display panel front protector panel (PDP front panel) according to an embodiment including the multilayer film ~~of the present invention~~ will now be described with reference to a drawing. ~~The present invention~~ Our disclosure is not limited to this embodiment. FIG. 2 is a schematic sectional view showing the PDP front panel ~~of the present invention~~. Multilayer films 1 each include corresponding substrate films 2 and sticky or adhesive layers 10 placed on the respective substrate films 2. A transparent substrate 9 made of glass, an acrylic resin, or polycarbonate is placed between the multilayer films 1 in a laminated manner.

Please amend third paragraph on page 38 as follows:

Examples

~~The present invention~~ Selected films will now be further described in detail with examples and comparative examples. In the description below, the unit "part" and the unit "%" are on a weight basis unless otherwise specified.

Please amend paragraph spanning pages 47 and 48 as follows:

Industrial Applicability

A multilayer film ~~of the present invention~~ has low surface reflectance and high scratch resistance that are properties suitable for antireflective films. Since the multilayer film has satisfactory antistatic properties and high flexibility, the multilayer film is preferably placed on the front face of a display to prevent reflection.